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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,741	09/06/2006	Shigeru Tanaka	TIP-06-1177	5793
35811 7590 11/27/2009 IP GROUP OF DLA PIPER LLP (US) ONE LIBERTY PLACE 1650 MARKET ST, SUITE 4900 PHILADELPHIA, PA 19103			EXAMINER NELSON, MICHAEL B	
			ART UNIT 1794	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

pto.phil@dlapiper.com

Office Action Summary

Application No.

10/584,741

Applicant(s)

TANAKA ET AL.

Examiner

MICHAEL B. NELSON

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16-33 and 37-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-33 and 37-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB06)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/28/09 has been entered. Claims 1-14, 16-33 and 37-39 are currently under examination on the merits. Because the claims have not been amended and because the same grounds of rejection from the last final action are used in the current office action, this action, even though it is a first action, is deemed **FINAL** (See Conclusion). MPEP 706.07(b) [R-6].

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
5. Claims 1-14, 16-33 and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asakura et al. (JP 03 187742), see English language translation, in view of Sadamitsu et al. (WO 02/066233), see U.S. 2004/0096744 as an English language equivalent.

Regarding claims 1, 2, 3, 8, 16, 37, 38 and 39, Asakura et al. discloses a biaxially oriented thermal transfer recording film (Page 8, last full paragraph and page 10 first full paragraph). The polypropylene containing core layer A (claim 1) of the laminate of Asakura et al. is sandwiched by skin layers, B, and laminated to a substrate with an adhesive layer C (page 13, first full paragraph). The substrate is disclosed as including an image receiving layer which is made up of a coating (Page 28, "Composition of the image-receiving layer"). This image receiving layer is identical to the layer disclosed in the instant specification at [0247] and since Asakura et al. discloses that his invention has high glossiness (Page 14, end of first paragraph), one having ordinary skill would expect the outer surface to exhibit the glossiness as instantly recited. Given that the "B" layer of Asakura et al. (Embodiments 1 and 2 of Table 1 on the last page and "Means of solving the problem" at Page 5) is substantially identical to the B layer composition disclosed at page 98 of the instant specification (i.e. @95% polypropylene and

@.5% PMP), one having ordinary skill would expect it to exhibit the claimed half crystallization time. The density of the film of Asakura et al. is disclosed as being between 0.75 g/cm³ or less (Page 9, second full paragraph). The cushion rate is disclosed as being greater than 8% (forth paragraph on page 9).

Asakura et al. does not explicitly disclose a core layer (i.e. "A" layer) which meets the instant limitations; however, Sadamitsu et al. discloses a biaxially oriented porous (i.e. void containing) film which is improved in strength (i.e. breakage resistance) and thickness uniformity (See Abstract) and which can be used in synthetic paper ([0112]). The core layer of Sadamitsu et al. is disclosed as containing a polypropylene base, inter alia a polypropylene homopolymer ([0128]), and B-crystallization nucleators which impart B-crystal activity. The Table 1 at page 20 of Sadamitsu et al. shows that for example A the B-crystal ratio of the core layer is 72% and the porosity (i.e. void ratio) is 57%. The voids created in the film of Sadamitsu et al. are a result of the different crystalline states of polypropylene ([0002]) and are therefore non-nucleus voids in that there is no nucleating particle left in the void after it is stretched. Given that the Sadamitsu et al. core layer uses a homo-polypropylene at the same relative amount to the same nucleating agent ([0195]) as in the instant specification (Example 1, [0256]) the core layer would exhibit the claimed melting point.

The inventions of both Asakura et al. and Sadamitsu et al. are drawn to the field of porous polypropylene films for use in thermal transfer films (i.e. synthetic paper) and therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the core layer of Asakura et al. by using the porous layer of Sadamitsu et al. for the purposes of imparting increased breakage resistance and thickness uniformity.

Modified Asakura et al. does not explicitly disclose the instantly claimed 2% elongation strengths (F2 value) however, one having ordinary skill in the art would have adjusted the thickness of the core and skin layers in order to provide a film with optimum balance of tensile strength and weight basis depending on the particular marketable application. Hence one having ordinary skill would have found it obvious to have produced the films of modified Asakura et al. with a variety of tensile strengths, including those instantly claimed.

Regarding claims 4-8, 9-14 and 17-33, modified Asakura et al. discloses all of the limitations as set forth above. Additionally, Asakura et al. discloses that the B skin layers include polypropylene (i.e. a polyolefin) (Embodiments 1 and 2 of Table 1 on the last page). The density of the film of Asakura et al. is disclosed as being between 0.75 g/cm^3 or less (Page 9, second full paragraph). The surface roughness is disclosed as between 0.25 and 0.08 micrometers (Page 10, first full paragraph). Given that the "B" layer of Asakura et al. (Embodiments 1 and 2 of Table 1 on the last page and "Means of solving the problem" at Page 5) is substantially identical to the B layer composition disclosed at page 98 of the instant specification, one having ordinary skill would expect it to exhibit the claimed crystallization temperature and void ratios. The PMP is disclosed as being introduced as pellets (i.e. organic particles) in embodiments 1-5 of Asakura et al. (Page 22). The optical density is disclosed as being greater than 0.7 (Page 9, third full paragraph). Given that Titanium oxide is disclosed (Bottom of Page 12) and given that the film is disclosed as being laminated to paper (Page 12, second and third full paragraphs), one having ordinary skill in the art would expect the whiteness to be within the claimed ranges especially considering the application of the inventions for image

receiving. An anchor layer, C, is disclosed as being between the B layer and the substrate layer (i.e. image receiving layer), and comprised of acryl based resins (first full paragraph of page 11).

Regarding the claimed thermal conductivity values, given the substantially similar layers and layer compositions of the film of modified Asakura et al. (i.e. the core layer of Sadamitsu et al. and the skin, adhesive, paper and coating layers of Asakura et al.) as stated above, one having ordinary skill in the art would expect the film of the prior art to exhibit these properties absent objective evidence to the contrary.

Response to Arguments

6. Applicant's arguments filed on 09/28/09 have been considered but are not persuasive.
7. Applicant argues that different methods (i.e. PMP and B-crystal) of making stretched voids result in nucleating vs. non-nucleating voids however the applicant has not provided any evidence of this fact. Moreover, since the Sadamitsu reference uses the B-crystal technique, it should result in non-nucleus voids even if applicant's allegations are proven true. Applicant proceeds to argue that non-nucleus voids "are originated with no PMP added." As explained above, it has not been shown with sufficient evidence that PMP results in nucleated voids. Even so, the instant claims only require "substantially non-nucleus voids" and therefore implicitly allows for some voids and therefore some amount of PMP (assuming that PMP does in fact result in nucleus voids). Moreover, the low (i.e. 10%, 8% or 2% amount, [0130]) of PMP referred to in Sadamitsu is only mentioned as an optional component and therefore Sadamitsu discloses a voided sheet without any PMP.
8. Applicant argues that the Asakura reference teaches away from Sadamitsu by teaching that a high amount of PMP is necessary. First, even assuming applicant is correct in alleging that

the amount of PMP is necessary to Asakura (which it is not), as explained in the previous advisory action, Asakura teaches 10% PMP (Page 5) and Sadamitsu also teaches 10% PMP ([0130]). Therefore, even assuming that applicant is correct in saying that PMP results in voids, if only 10% PMP is used, as per the common teachings of the references, this would not result in a "substantial" amount of nucleated voids. For a 10% PMP composition, the two references overlap and therefore cannot teach away from each other. This line of reasoning is moot because even the embodiments of Sadamitsu that teach less than 10% PMP, or none at all, are not taught away from by Asakura.

9. First, Asakura discloses that the central layer **can** contain PMP in amounts of between 10% and 40%" and therefore rather the disclosure implies that other types of layer compositions which meet the functional requirements may be used. Second, Asakura discloses that, if PMP is used in the central layer, at values less than 10% the "cushioning properties of the resulting film **may** become insufficient." This disclosure implies that there are other factors, besides the amount of PMP, which might affect suitability of the central layer as a cushioning layer. In summation, the teaching in Asakura that has been repeatedly referenced by the applicant is not sufficient as a basis to argue that Asakura teaches away from Sadamitsu because Asakura does not require 10% PMP in the central layer for it to be an adequate cushioning layer.

10. Applicant argues that Sadamitsu does not disclose a uniform void structure and yet the examiner has shown that Sadamitsu discloses the importance of uniformity ([0012]). Applicant also continue to argue that even though Sadamitsu discloses a pore size of 0.1 microns, which is the same as the applicant's pore size, this pore size would not be the pore size used in the cushioning calculations. However, applicants have again provided no evidence as to why

Sadamitsu's pore size would result in a different cushioning factor despite being the same pore size referenced by applicant in their disclosure (even mentioned in the instant remarks at page 2). Applicant has argued that only specific types of pores are relevant to the cushioning factor and that "uniform and fine voids make a film possible to have a high cushion factor" but there is no evidence to support these allegations. Applicant states that the pore size of 0.1 micron in Sadamitsu is the pore size that "penetrates one surface to the other surface of a film" however, on page 2 of the remarks, the instant 0.1 micron pores size is also described as being from the "top to the bottom" and therefore the examiner does not see the difference. Applicant must provide some evidence as to why the structure of Sadamitsu would not be able to achieve the instantly claimed cushioning factor.

11. Applicant argues that Sadamitsu does not mention the term "cushion factor" and therefore makes it "inherently impossible" for one having ordinary skill in the art to have used the porous film of Sadamitsu as the central cushioning layer in Asakura. The examiner disagrees. The porous film of Sadamitsu has adjustable pore size and void ratios and one having ordinary skill in the art would recognize that it has a "cushioning factor" even though the reference itself does not mention it. Accordingly, as in the rejection, it would be obvious to have used the porous film of Sadamitsu as the central porous film of Asakura. It would also be obvious to have optimized the cushioning factor of the porous film (by controlling the pore size and the void ratio) of Sadamitsu to achieve the necessary cushioning properties (i.e. greater than 8%) as disclosed in Asakura.

12. Applicant argues that they have achieved unexpected results in the use of a small amount of nucleating agent to produce a high cushioning factor. Since Sadamitsu also uses a small

amount of nucleating agent and Asakura teaches achieving a high cushioning factor, absent evidence that the film of Sadamitsu, with its range of pore sizes and void volumes, could not achieve the instant cushioning properties, the results are not considered unexpected.

Conclusion

13. This is an RCE of applicant's earlier submitted claims. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL B. NELSON whose telephone number is (571) 270-3877. The examiner can normally be reached on Monday through Thursday 6AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571) 272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner, Art Unit 1794

11/17/09
/MN/